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ABSTRACT

Diaries showing how 920 Irish fifth graders spent their leisure time on three designated days within one week augmented data about the children's personal, school, and home characteristics to aid in determining the primary factors related to the amount and type of leisure time reading. The children reported spending a median time of 60 minutes per week in leisure reading, primarily with either books or comics, but also with newspapers. While gender and reading attainment emerged as the strongest predictors of leisure reading, the most significant finding was the apparent complexity of leisure reading: although earlier studies related the individual variables used in this study to leisure reading, those same variables collectively accounted for only 22.9% of the variation in time devoted to book reading, 7.46% of the variation in time spent reading comics, and 18.75% of the differences between book and comic readers. These low percentages suggest the need for much more research to increase understandings of leisure time reading. (RL)

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FACTORS RELATED TO AMOUNT AND TYPE OF LEISURE TIME READING

Paper presented to the Seventh World Congress on Reading, Hamburg, 1978.

Background

While the issues of reading standards and methods continue to attract considerable public attention there has been a notable lack of interest on the part of teachers, educational administrators and researchers in leisure reading. Despite the fact that the development of a leisure reading habit is an oft stated objective of a primary school curriculum there is a dearth of empirical evidence on the extent to which this objective is attained. Much of the available evidence on leisure reading is limited to studies on reading preferences (24) and attitudes toward reading (28). How much time pupils spend at leisure reading, the uses to which they put reading and the value they place on reading - these are questions which carry serious implications for all concerned with the teaching of reading.

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The limited available evidence on leisure reading is categorised under two main headings: (i) studies which have examined the extent of leisure reading and (ii) studies which have identified correlates of leisure reading. While a number of these studies do not differentiate among types of leisure reading material, others refer to comic (or comic book) reading and to book reading. In general comics differ from books in terms of frequency of issue and format; comics are published on a weekly or monthly basis and usually contain a series of cartoons depicting a humorous or adventurous story. Comic annuals and popular children's magazines are classified generally as comics. The level of reading competence required for comic reading tends to be lower than that required for book reading.

Extent

Most adults and children appear to read quite extensively both during work and leisure hours. In the United States for instance, it has been reported that the average person reads for one and three-quarter hours on a typical day (24). Among thirteen-year-olds, a total of 78 per cent reported that they read for pleasure at least once a week (22). British findings indicate that children read approximately 3 books per month and that there has been little increase in the amount of book reading between the mid fifties (10) and the early seventies (35).

A Scottish survey (19) reported that children in the 8-15 age group read an average of 1.5 books and slightly over 4 comics and newspapers per week. More recently, an Irish survey (8) revealed that slightly over 60 per cent of senior primary school pupils read for at least one half hour per day.

It is somewhat difficult to compare the results of these studies since the variables of interest and methods of assessment differ and also since the demands made on children's and adolescents' leisure time may vary across cultures. Despite these differences, there seems to be general agreement that fiction is preferred to non-fiction (1,13,27) especially among girls (35), that poetry is less popular than prose (22,34,37), and that much of the fiction material read is considered of little value by adult standards (12,35).

Correlates

Several studies have identified correlates of leisure reading. These correlates include age, gender, socio-economic status, reading attainment, teaching method, time devoted to television viewing and availability of reading material.

American and British studies have indicated that the time and amount of leisure reading varies with pupil age. Towards the end of primary school children tend to experience the "reading craze"; the amount of

reading is greatest at this stage (32). As children get older however there is a pronounced decrease in the amount of time they spend in leisure reading, especially in book reading (19,35). The more able child may be an exception to this trend; there is some evidence that he maintains his level of reading, perhaps because of the lack of stimulation afforded him by television (10,25).

The total number of books read by girls exceeds that of boys (19,35) although boys appear to read more non-fiction material than girls (22,31) in general. In Britain, girls appear to read more comics than boys (35). This latter finding may be partly a function of the greater supply of comics which address themselves specifically to girls (21). It seems more likely, however, that the increased supply merely represents a marketing response to the high level of demand by girls for material of this nature.

At the family level, a number of studies have reported a relationship between socio-economic status and leisure book reading. Long and Henderson (15), Maxwell (19) and Whitehead et al (35) observed that children from working class homes did not read very much; frequent leisure reading was most characteristic of those of higher social backgrounds, education and ability (11). Given the known relationship between social class and family size it is not surprising to find that children in large families tend to read fewer books than children in smaller families (35). As far as comic reading is concerned there is

a tendency for children of manual workers to read more than children of non-manual workers (35).

Although leisure reading is regarded typically as an out-of-school activity, school factors such as level of reading attainment may be of considerable relevance. Leisure reading and in particular book reading requires a level of reading proficiency on the part of the reader. A number of studies have reported significant relationships between amount of leisure reading and level of pupil attainment (2,15,19,35). Connor (2), for instance, found that good readers in contrast to poor readers read more and better quality reading material, while Maxwell (19) observed that a lot of poorer readers at secondary level appeared to be abandoning the habit of reading. Studies with older pupils have indicated that level of educational attainment is related to amount of reading (26) and also to the level of enjoyment derived from reading (11).

The nature of the relationship between teaching method and extent of subsequent leisure reading is unclear. One small scale longitudinal study which has examined the relationship between systematic school based efforts to foster leisure reading found that such efforts were successful with primary school pupils over a short eight month period (5) but that many of the initial successes in terms of time devoted to reading had disappeared six years later (6). However another longitudinal study reported that subjects who had completed a six year free reading

program were, some twenty-five years later, doing significantly more reading than most other groups with which they were compared (16,17).

Given the major part that television plays in the lives of children its effects on leisure reading are of particular interest. A review of studies to date (23) seems to suggest that television does not interfere in any substantial way with the reading of books. In one particular study (25) carried out in two Canadian communities, one with television and one without access to television, no significant difference was found between the average number of books read per month between viewers and non-viewers. However a number of studies have reported that the introduction of television did clearly have an impact on comic reading (10,25). It has been suggested (25) that because books and for that matter newspapers and "better" magazines are associated with reality needs (e.g. information) they were not affected by television, whereas television better met the fantasy needs formerly catered for by comics and "escape-pulp" magazines. The extent of the relationship between leisure reading and television viewing is not very strong. Although Whitehead et al (35) found an inverse relationship between amount of television and amount of reading they also reported that a substantial number of heavy readers (3 or more books per month) watched a lot of television (more than 3 hours per week-day evening) while others watched little; similarly many heavy television viewers read a lot while others read little. It would appear also that a considerable

number of children have grown up under conditions which taught them how to accommodate large amounts of television without sacrificing other activities (18).

Finally it is reasonable to expect that the amount of leisure time reading is related to availability of reading material. This material may come from a variety of sources including public and school libraries, personal purchases and gifts. In the past, studies in the United States (29) and in Great Britain (30) have indicated that post-primary school students preferred public libraries to school libraries as the source of books for personal reading. More recently however, possibly as a result of the expansion in the paper-back book market for younger readers, there is evidence to suggest, in Scotland at any rate, that a considerable amount of personal reading material originates from sources other than public or school libraries (19).

This review indicates that many variables are related to some extent to amount of leisure reading. It also raises three important methodological problems. Firstly most of these studies have focussed on simple bivariate relationships between leisure reading and another variable of interest. In most instances potentially important variables were not included thus allowing for the possibility of alternative explanations of findings. The review serves to underline the fact that the variables that have been identified should be considered simultaneously in any

comprehensive analysis of leisure reading. One simply cannot understand and explain the phenomenon of leisure reading without considering the complex manner in which independent variables interact with one another as they impinge on the dependent variable. In other words, a multivariate study in which possibly relevant variables are considered together rather than a series of separate univariate studies is required. Secondly, the term leisure reading has been used in some instances as if it refers to a relatively homogeneous activity. It may well be that the extent of the relationship between leisure reading and another variable such as reading attainment is much stronger for book readers, for example, than for other types of readers such as newspaper or comic readers. It is necessary therefore to preserve the distinction between different types of reading. Thirdly, various indices of leisure reading, most notably number of books read, have been used. Apart from the fact that the reliability of an index such as number of books read is questionable, this approach fails to take into account such factors as the number of pages read. It is suggested that the amount or proportion of his total leisure time a pupil allots to reading is a more appropriate and sensitive measure of the leisure reading habit.

Arising from the previous comments, the present study is designed to obtain answers to the following questions:

1. What proportion of students' leisure time is devoted to leisure reading? How much of leisure reading time is given to book reading, to comic reading and to newspaper reading?

2. Are there relationships between the amount of time a student devotes to book reading, to comic reading and to newspaper reading or is the amount of time devoted to each type of reading relatively independenc of the amcunt of time devoted to other types?

3. How much of the variation in leisure reading time is explainable in terms of personal, nome and school related variables?

4. What is the extent of the relationship between amount of time devoted to leisure reading and to other leisure activities?

5. If reading types (e.g. book readers, comic readers) are identifiable, what are the major differences between different types of leisure readers?

Method

Sample

A sample of Irish primary school (N: 31) was selected for the study which was carried out during one week in June, 1976. The schools were stratified by location, i.e., city (N: 12), town (N: 9) or rural (N: 10), and by availability of choice of television channels (single channel (N: 14) or multi-channel (N: 17)). All fifth grade pupils (N: 920) in the sample of schools were expected to participate in the study.

Procedure

Children were asked to complete a diary of how they spent their leisure time on each of three nominated days in a one week period -- a Tuesday, a Thursday and a Sunday. For Tuesday and Thursday the time between 3 p.m. and 11 p.m. was blocked out in half hour periods. For

Sunday a similar approach was adopted for the period 8 a.m. to 11 p.m. In each instance the diaries were completed in school on the following day. The children were not made aware that informatin about their reading habits was being sought. The pupils were required also to complete a brief questionnaire designed to elicit some personal and home-background information. Details of fathers' occupation and pupil age were supplied by the teacher. A standardised reading attainment test was administered to each pupil.

Variables investigated

I. *Personal*

1) Leisure activities. From the daily diaries which were divided into half-hourly sections, the amount of leisure time devoted to leisure reading and to book, comic and newspaper reading was calculated. (Leisure time reading for Tuesday and Thursday was defined as that period between cessation of school and going to sleep at night or 11 p.m., whichever was earlier , and for Sunday as the period between waking in the morning and sleep at night or 11 p.m.; time devoted to meals was not included. Leisure reading referred to reading of any kind, excluding school texts and other materials assigned at school.) The diaries also served as the source of data for the amount of leisure time devoted to each of the following activities: television viewing, radio listening, school homework, helping in the home, outings (e.g. family outings and educational activities out of school such as music lessons, library visits), hobbies, inactive/lying about (e.g. "just talking", sunbathing), visiting/religious

ceremonies, organised play (mostly team games) and unorganised play (e.g. free play without strict rules). In very many instances more than one activity was mentioned in a half-hour segment. In such cases, unless an activity was obviously trivial (e.g. "ate a biscuit") and non-time consuming, the half-hour was divided equally among the listed activities.

To test the reliability of the classification system a 10 per cent sample of the diaries was selected and rescored by an independent rater. A comparison of the two sets of scores revealed satisfactory reliability coefficients for all leisure activities apart from outings, hobbies and visiting/religious ceremonies. Apparently considerable difficulty was experienced in determining whether certain leisure activities could be considered (a) outings or outdoor hobbies or (b) outings or visits to relatives. Accordingly the three categories were grouped to form a new category termed outings/hobbies. Details of the inter-rater reliability coefficients for the categories are presented in Table 1.

INSERT TABLE 1 ABOUT HERE

2) Reading attainment. A pupil's reading score was defined as the sum of his scores on the vocabulary and comprehension sections of the nationally standardised Drumcondra English Test: Level III.

3) Age, i.e., age in months.

4) Gender. Boys were coded 1; girls were coded 2.

5) Library membership. A pupil who was a member of a public library was coded 1; non-members were coded 2.

The personal variables can be divided into two categories, i.e. (i) leisure variables such as amount of television viewing which compete with reading for the available leisure time and (ii) the remaining non-competing variables--reading attainment, age, gender and library membership. The first group of personal variables are interrelated in a manner which results inevitably in a set of scores for leisure activities such that the pupil who has a high score on some activity variables, of necessity, must have a low score on others. For instance, a pupil who spends a lot of his leisure hours watching television, reading and helping in the home can have relatively little time to devote to other activities. Scores on variables of this nature have been termed ipsative (33). In general leisure variables were analyzed separately from the other personal variables.

II. *Home variables*

1) Socio-economic status. Father's occupation was categorised into one of five categories as follows: (i) higher and lower professional (coded 1); (ii) employer managerial and salaried (coded 2); (iii) intermediate non-manual, other non-manual and skilled (coded 3); (iv) farmers and semi-skilled manual (coded 4) and (v) unskilled manual, deceased and unemployed (coded 5).

2) TV reception. Pupils in homes in single-channel areas were coded 1 and in multi-channel areas were coded 2. In addition to receiving Radio Telefis Eireann (the national television service), multi-channel areas, on account of geographical factors, had access to programmes televised by the British networks (BBC and ITV).

3) TV in home. A code of 1 indicated the presence of a television set; pupils in homes without television were coded 2.

4) Radio in home. The same coding system was used as in the case of television.

5) Family size, i.e., the number of children in the family.

6) Ordinal position. This refers to the birth order of the child. The first born child was coded 1.

III. *School variables*

1) School location. Schools within the five boroughs of Dublin, Cork, Limerick, Waterford and Dun Laoghaire were classified as city schools and coded 1. Town schools were located in towns with a population of over 1,500 and were coded 2. Schools in rural areas or towns with a population of less than 1,500 were categorised as rural and coded 3.

2) School type. The pupils in the study were enrolled either in all male, all female or mixed schools. These three school type variables were

recoded to form two dummy variables (14) as follows:-

Dummy variable	Value
School type 1	1 = all girls, 0 = other
School type 2	1 = mixed, 0 = other

Pupils in all boys schools served as the reference group.

The statistical analysis was restricted to those cases (N: 720) for whom complete data were available on all measures including the three diaries.

Results

Descriptive statistics for the variables used in the analyses are presented in Table 2. An examination of the descriptive statistics on

INSERT TABLE 2 ABOUT HERE

reading attainment ($\bar{X}$: 59.18; Mdn.: 62.90; SD: 15.95) indicate that on this variable, the pupils in the selected sample were similar to those in the national norm group for this test ($\bar{X}$: 58.58; Mdn.: 62.00; SD: 15.93).

On a number of the leisure activities the distributions are highly skewed; large numbers of pupils did not spend any time at particular

leisure activities, while relatively small numbers devoted much of their time to individual activities. For example the percentage of pupils who did not read books was 44 per cent, while at the other extreme a total of 6.4 per cent of the pupils devoted at least three hours of their leisure time to book reading. To render the distributions of each of the leisure activity variables more amenable to statistical analyses (20), the values (i.e. number of minutes) for each variable were subjected to a logarithmic transformation. Except where it is indicated to the contrary, transformed values of leisure variables are used in the following analyses.

1. *Proportion of leisure time devoted to leisure reading:* Of the nine major leisure categories (cf Table 2), reading (based on number of minutes) ranked seventh on both mean and median rankings. Overall 5.4 per cent of leisure time was spent at reading. This proportion varied from 4.6 per cent for Sunday to 5.8 per cent and 6.4 per cent for Tuesday and Thursday respectively. A total of 22.2 per cent of pupils did not devote any time to leisure reading; 22.9 per cent spent from 10-55 minutes reading, 26.7 per cent from 60-115 minutes, 16.0 per cent from 120-175 minutes and the remaining 12.2 per cent read for a minimum of 180 minutes (Range: 180-505). It is of considerable interest to note that almost 40 per cent of leisure reading was carried out in bed either late at night (33.25 per cent) or early on Sunday morning (5.87 per cent). Clearly, book reading occupied

considerably more of the available leisure time than comic reading. Of the total amount of leisure time spent at reading 62 per cent was devoted to books, 31 per cent to comics and 7 per cent to newspapers. The overall proportions reflect adequately the proportions for each of the individual days. A separate analysis revealed that the amounts of time given to leisure reading on Tuesday and Thursday were very similar, and that there was an increase of approximately one-third in leisure reading time on Sunday.

2. *Relationships among types of reading:* The second analysis examined the extent of the relationships between the amount of time devoted to reading books, comics and to reading newspapers on each of the three days. The purpose of this analysis was to determine if types of leisure reading can be classified meaningfully (i.e. book reading, comic reading, etc.) or if leisure reading is more day related than type related (i.e. Tuesday reading, Thursday reading, etc.) or if leisure reading simply represents a general reading factor. The table of intercorrelations of reading types for each of the three days was subjected to a factor analysis. Three factors were selected on the basis of the number of eigen-values greater than one and were rotated to a varimax solution. The results of the factor analysis are presented in Table 4. While the proportion of explained variation in amount of leisure reading time is relatively small (28.64 per cent) the analysis nevertheless indicates the presence of three factors, namely book reading, comic reading and

a minor newspaper reading factor.

INSERT TABLE 3 ABOUT HERE

3. *Leisure reading and personal, home and school related variables:* Since leisure reading in most instances amounted to book and comic reading it was decided to examine more closely the relationship between these two categories of reading and the personal, home and school related variables. Alternative leisure activities were not considered in this section of the analysis.

Book reading

The correlations between book reading and the personal, home and school variables are presented in Table 4. The data indicate that

INSERT TABLE 4 ABOUT HERE

gender (girls read more), reading attainment, attendance at a girls' school and library membership have the strongest independent relationships with book reading.

Since the variables were intercorrelated, the data were subjected to a stepwise multiple regression analysis to determine the combined contribution of the thirteen variables in explaining variation in book

reading. (School type 3: Boys was not included as all the necessary information was represented by the remaining two school type variables.) When the thirteen variables were included 22.93 per cent of the total variance in book reading was accounted for. Variables which did not add a significant amount to the precision of the model were excluded. It was found that after gender, reading attainment, location, library membership and ordinal position had been stepped in (cf Table 5), 21.46 per cent of the variance had been accounted for; the addition of further variables did not increase the proportion of variance accounted for by a significant amount.

INSERT TABLE 5 ABOUT HERE

A separate analysis was carried out to ascertain the extent to which each of the variables explained unique portions of the variance in book reading. In effect the unique contribution of a variable is the variance attributable to it after the effects of the other independent variables have been taken into account i.e. when it is entered last in the regression equation (14). In terms of the thirteen independent variables, significant unique contributions are made (in order of size of beta weight) by reading attainment, gender, location, library membership and socio-economic status.

Comic reading

The independent correlations between the variables and comic reading

are much smaller than those recorded for book reading. Whereas girls

INSERT TABLE 6 ABOUT HERE

tended to devote more time to books, the data indicate that the situation is reversed in the case of comics; i.e. boys tend to devote more time to comics. Reading attainment was also positively correlated with comic reading. However, the strongest relationship (though admittedly relatively weak) was found between comic reading and TV reception; pupils in single-channel areas tended to spend more time reading comics than their colleagues who had access to a greater number of channels.

A total of 7.46 per cent of variation in time devoted to comic reading was accounted for by the thirteen predictor variables. The addition of further variables after TV reception, reading attainment and gender (cf Table 7), which together accounted for 5.56 per cent of the variance, did not increase the proportion accounted for by a significant amount.

INSERT TABLE 7 ABOUT HERE

The unique contribution of each variable after controlling for the remaining twelve variables was calculated. This latter analysis indicated that significant unique contributions were made by the variables TV reception, reading attainment and ordinal position.

4. *Leisure reading and other leisure activities:* Is there evidence to indicate that book reading or comic reading is related to other forms of leisure activity? Pearson product-moment correlations were computed to examine the relationship of each alternative form of leisure activity to book reading and to comic reading. Details of the results are presented in Table 8. The data indicate that amount of time devoted to

INSERT TABLE 8 ABOUT HERE

book reading is negatively related to inactivity and positively related to listening to the radio and helping in the home. Time devoted to comic reading is also negatively related to inactivity; it is positively related to time devoted to organised and unorganised play. It is interesting to note that the relationships between book reading and television viewing and between comic reading and television viewing are not significant.

5. *Differences between book and comic readers:* Two categories of leisure reading, namely book reading and comic reading, have been identified. An examination of a scattergram of scores on each of these categories indicates that many pupils can be described aptly as being either predominantly book readers or predominantly comic readers. To find out more about the nature of the differences between these two categories of readers, a profile of each reader type was constructed. At the outset however it was necessary to define the terms "predominantly book reader"

and "predominantly comic reader". Pupils whose book reading time exceeded their comic reading time by more than 25 minutes* were classified as predominantly book readers, while those whose comic reading time exceeded book reading time by a similar amount were classified as predominantly comic readers. Non-readers and light readers (i.e. 25 minutes or less) on both types of reading material were excluded (31.1 per cent) as were a small number of heavier readers (i.e. more than 25 minutes on one or both) where the discrepancy between time spent reading books and comics was less than 26 minutes (7.5 per cent). A total of 290 (40.3 per cent) were classified as predominantly book readers and 152 (21.1 per cent) as predominantly comic readers.

Univariate comparisons of the two categories (cf Table 9) indicated significant differences on 12 of 21 variables used to describe personal and background characteristics of the pupils and their leisure time activities. Because many of the variables are intercorrelated, it is difficult to identify variables which might make relatively unique contributions to the differentiation of book readers from comic readers. To solve this problem the data for both groups were subjected to a discriminant analysis, i.e. a multivariate statistical technique designed to weight and linearly combine the personal, background and leisure time variables so that the groups are distinguished in terms of

* The figure of 25 minutes was selected for two reasons. Firstly it was considered that a pupil who devoted 25 minutes or less to leisure reading could scarcely be termed a leisure reader. Secondly an examination of the frequency distributions for both books and comics suggested that this was an appropriate value for dichotomising between readers and non-readers.

the configuration of all the variables for which we have measures. Three separate analyses were carried out. The first analysis included the thirteen personal (non-leisure), home and school variables; the second was confined to the eight leisure variables, while the third involved all twenty-one variables. The results of the three analyses are summarized in Table 9.

INSERT TABLE 9 ABOUT HERE

What are the major independent differences in terms of personal (non-leisure), home and school variables between those who are predominantly book readers and those who are predominantly comic readers? Reference to the centroid or mean values for the first function (-.29, .56) indicates that pupils with low scores on the function are classified as book readers. The standardised coefficients which are presented on Table 9 suggest that a book reader was likely to attend a girls' school in a relatively rural area, was a girl*, tended to have a high level of reading attainment, was a member of a relatively small family, had a father whose occupation tended towards the middle and upper socio-economic levels, and was probably a member of a public library. On the other hand, a pupil with a high score on the function, i.e. a comic reader, was unlikely to be enrolled in an all girls' school, tended to attend an urban school, was a boy, had a relatively low level of reading

* Girls attended both girls' schools and mixed schools.

attainment, tended to be a member of a large family which was of low socio-economic status, and was unlikely to be a member of a public library.

An indication of the discriminant functions ability to discriminate between the two groups was provided by the canonical correlation between the function and the groups; this correlation was small (.41).

The second discriminant analysis, confined to leisure activities (variables 14-21), revealed that by comparison with book readers, comic readers were inclined to devote more time to play activities, spend more time inactive and at outings or hobbies and less time at school homework. However, the value of the canonical correlation (.27) indicated that this leisure time function had very little discriminatory power (7.3 per cent).

Lastly, the comparison of predominantly book and comic readers was extended to include both the personal, home and school variables and the leisure variables in the same analysis (variables 1-21). The discriminatory power of both sets of variables combined (18.75 per cent) was a mere 2.30 per cent above that of the first set of variables. The analysis indicated that the typical book reader tended to be a girl in a rural area who was inclined to spend less than the average amount of time inactive or playing. Furthermore the book reader was more likely than not to attend either a girls' or mixed school, was a relatively good reader and was probably a member of a public library.

Discussion

Three categories of pupil leisure time reading were identified in our study. These were book reading, comic reading and newspaper reading, the last of which was relatively minor in terms of the amount of time pupils devoted to it. Over the three-day period of the study, pupils devoted an average of 79 minutes (i.e. 5.4 per cent of available leisure time) to reading for leisure. This average figure is not an appropriate measure of central tendency since a sizeable proportion (22.2 per cent) did not do any reading, while at the other extreme approximately 12 per cent of the pupils read for a minimum of three hours. A more appropriate measure of central tendency for leisure reading is provided by the median figure of 60 minutes. Substantially more time was devoted to book than to comic reading irrespective of which measure of central tendency is used, while little to no time was spent reading newspapers.

Most of the explained variation in time devoted to books was accounted for by a combination of the variables gender, reading attainment, school location, library membership and ordinal position in family. This result suggests that the heavy book reader was most likely a girl with a good reading attainment score, who lived outside of the city, was a member of a public library and had a low ordinal position (i.e. was among the first born members of the family). Our

study also identified a number of variables which made unique contributions to variation in time devoted to book reading. These were reading attainment, gender, school location, library membership, and socio-economic status. So far as comic reading is concerned we were singularly unsuccessful in explaining variation. Slightly over 5 per cent of the variation was accounted for by a combination of TV reception, reading attainment and gender, a finding which suggested that pupils who are most likely to devote time to comic reading reside in a single channel area, have relatively good reading attainment scores and are boys. Significant unique contributions were made by residence in a single- or multi-channel television reception area (i.e. TV reception), reading attainment and ordinal position in family. Although a number of significant correlations were reported between book and comic reading and other leisure activities, none of these leisure activities accounted for more than 6 per cent of variation in leisure reading time.

Among leisure readers, it was possible to identify and discriminate between two major groups, those whose reading consisted mainly of books and those whose reading consisted mainly of comics. By comparison with the predominantly comic reader, the book reader tended to be a girl in a non-urban area, was enrolled in a mixed or girls' school and was inclined to devote less than the average amount of time doing nothing or involved in organised or unorganised play. In addition the book readers tended to be members of public libraries.

Two variables which emerged as strong predictors of leisure reading in virtually all of the analyses are gender and reading attainment. In the case of gender, both the zero-order correlation and the unique contribution of the variable showed that girls tended to devote more time to books, while boys tended to devote more time to comics. Gender proved to be the strongest discriminator of 21 variables between book and comic readers. Significant unique and zero-order correlations were recorded also between reading attainment and both major categories of leisure reading. The positive relationship between time devoted to book reading and reading attainment supports the findings of two recent British studies (19,35). The positive relationship between time spent reading comics and reading attainment suggests that, despite the impoverished language which is a feature of many of the popular comics a certain level of reading competence seems to be associated with comic reading. Conversely, the correlations between types of leisure reading and attainment suggest that those who obtain low scores on reading attainment tend to devote relatively little time to book reading or comic reading.

Book readers, by comparison with comic readers, tended to devote more time to helping in the home and doing school homework, also they were inclined to be less involved in organised and unorganised games and tended to be members of public libraries. This finding suggests

that family life styles or "environmental process variables" (4,36), such as positive work habits, high level of intellectual stimulation and pressure to achieve may be more prevalent in the homes of the book readers. Given this finding and evidence from elsewhere (9) it is indeed likely that a study of the relationship between home process variables and time devoted to leisure reading would contribute more to our understanding of the leisure reading phenomenon than further studies which measure home effects by father's occupation or level of education. This recommendation is made notwithstanding the fact that father's occupation was identified as an important variable in the present study.

Very little time was spent listening to the radio. This time was neither directly nor indirectly related to time devoted to leisure reading. As the pupils get older however, there is evidence (7) to suggest that there may be a substantial increase in the amount of their leisure time given to radio listening. The effects of radio listening on leisure reading may be quite different at a slightly older age level.

Time spent watching television is clearly a variable of interest especially in light of the fact that 97 per cent of the sample devoted some time to television. It has been suggested that there is an inverse relationship between time devoted to television viewing and

amount of reading (35). Yet, in the present study, in which time rather than amount was used as an index of reading, the relationships between television and both types of leisure reading were non-significant. Neither did availability of choice of television channel affect time given to book reading. Pupils in single channel areas however, (who, interestingly enough, watch slightly more television than those in the multi-channel areas) devoted somewhat more time to comic reading. Without the benefit of measures of leisure reading prior to the advent of television it is difficult to measure the displacement effect, if any, of television on leisure reading. Other research findings suggest that in the case of books, television does have a displacement effect in the first instance, but that the initial effects may be short-lived and slight; comics, however, tended to be less widely read (3). It may be, as Lyle and Hoffman (18) have suggested, that children accommodate television without dropping other leisure activities. The present findings indicate that over a three day period, despite the attraction of television, the majority of children devoted time to leisure reading, mainly book reading. Interestingly enough, much of the leisure reading was carried out in bed at night (33.25%), between 3 p.m. and 5 p.m. in the afternoon (12.62%), or in bed on Sunday morning (5.87%) i.e. times when on account of programming or parental restrictions television may not have been available to the children.

The most significant finding to emerge from the present study is the indication of the complexity of the phenomenon of leisure reading. Many of the variables used in the study had been shown in previous univariate studies to be related to leisure reading. Yet, when considered together these variables accounted for only 22.9 per cent of the variation in time devoted to book reading, a mere 7.46 per cent of the variation in time spent reading comics and 18.75 per cent in the differences between book and comic readers.

The implications of these findings are clear. Much additional work is required if we are to throw further light on our present inadequate understanding of leisure reading.

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Table 1: Inter-rater reliability coefficients

Variable	Rel. Coeff.	Variable	Rel. Coeff.
Book reading	.95	Organised play	.91
Comic reading	.85	Unorganised play	.82
Newspaper reading	.95	Helping in the home	.97
Television viewing	.97	School homework	.93
Radio listening	.99	Outings/Hobbies	.82
Inactive/Lying about	.82		

Table 2: Descriptive statistics of pupil, home and school variables

Variable	$\bar{X}$	Mdn.	SD	Variable	$\bar{X}$	Mdn.	SD
Personal (non-leisure)				10. Inactive/Lying about	181.35	149.50	115.03
1. Reading attainment	59.18	62.90	15.95	11. Helping in the home	147.74	113.93	144.20
2. Age	138.64	138.26	6.95	12. Outings/Hobbies	444.58	418.89	217.65
3. Gender	1.50	1.51	.50	*Home*			
4. Library membership	1.51	1.52	.50	1. Socio-economic status	3.18	3.08	1.06
Personal (leisure)				2. TV reception	1.57	1.62	.50
1. Book reading	48.92	27.91	68.84	3. TV in home	1.02	1.01	.16
2. Comic reading	24.56	1.85	38.83	4. Radio in home	1.03	1.01	.18
3. Newspaper reading	5.60	.58	14.00	5. Family size	5.33	4.85	2.55
4. Total reading	79.08	59.97	79.16	6. Ordinal position	3.38	2.84	2.34
5. Television viewing	267.70	247.78	162.69	*School*			
6. Radio listening	4.93	.30	20.62	1. Location	1.62	1.48	.70
7. Organised play	112.71	82.50	119.30	2. School type 1: Girls	.42	.36	.49
8. Unorganised play	156.06	125.83	134.74	3. School type 2: Mixed	.19	.12	.40
9. School homework	57.71	45.16	56.91	4. School type 3: Boys	.39	.32	.49

Table 3: Types of leisure reading on three separate days: Varimax factor loadings.

Variable		Factor Loadings* I	II	III
Books:	Tuesday	*.63*	-.10	.12
Books:	Thursday	*.71*	-.07	.00
Books:	Sunday	*.58*	-.02	.13
Comics:	Tuesday	-.07	*.54*	-.07
Comics:	Thursday	-.10	*.56*	.13
Comics:	Sunday	-.00	*.53*	.01
Newspapers:	Tuesday	.00	-.04	*.44*
Newspapers:	Thursday	.03	.00	*.31*
Newspapers:	Sunday	.10	.08	*.25*
Per cent of variance		14.04	10.10	4.50
Per cent of total variance				28.64

* Loadings greater than .20 are italicized

Table 4: Correlates of amount of time devoted to books

Variable	r	Variable	r
Personal			
1. Reading attainment	.31***	4. Radio in home	-.03
2. Age	-.04	5. Family size	-.17***
3. Gender	.31***	6. Ordinal position	-.16***
4. Library membership	-.20***	*School*	
Home		1. Location	.07
1. Socio-economic status	-.15***	2. School type 1: Girls	.27***
2. TV reception	-.05	3. School type 2: Mixed	.01
3. TV in home	-.03	4. School type 3: Boys	-.28***

*** $p < .001$

Table 5: Book reading: Regression analysis - reduced model

Variable	Order of Entry	Final Beta	R^2
Gender	1	.27	9.63
Reading attainment	2	.25	16.28
School location	3	.17	18.71
Library membership	4	-.12	20.48
Ordinal position	5	-.10	21.46

Table 6: Correlates of amount of time devoted to comics

Variable	r	Variable	r
Personal			
1. Reading attainment	.13***	4. Radio in home	.03
2. Age	-.01	5. Family size	-.06
3. Gender	-.08*	6. Ordinal position	-.10**
4. Library membership	-.03	*School*	
Home		1. Location	-.04
1. Socio-economic status	-.04	2. School type 1: Girls	-.06
2. TV reception	-.16***	3. School type 2: Mixed	-.07
3. TV in home	-.04	4. School type 3: Boys	.12***

* $p < .05$ ** $p < .01$ *** $p < .001$

Table 7: Comic reading: Regression analysis - reduced model

Variable	Order of Entry	Final Beta	R^2
TV reception	1	-.17	2.71
Reading attainment	2	.15	4.62
Gender	3	-.10	5.56

Table 8: Correlates of amount of time devoted to books and comics and other leisure activities

Variable	Books	Comics	Variable	Books	Comics
Television viewing	.03	.03	Outings/Hobbies	-.04	-.04
Radio listening	.08*	-.01	Helping in the home	.08*	-.03
Organised play	-.06	.11**	School homework	.14***	.01
Unorganised play	-.07	.08*	Inactive/Lying about	-.23***	-.10**

* $p < .05$ ** $p < .01$ *** $p < .001$

Table 9 **Univariate and multivariate comparisons of predominantly book readers and predominantly comic readers.**

	Variable	Books (N:290) $\bar{X}$	Comics (N:152) $\bar{X}$	F	Disc.Function Coefficients	
					Vars: 1-13	Vars: 1-21††
	Personal (non-leisure)					
1.	Reading attainment	63.18	58.57	9.98**	−.26	.20
2.	Age	138.16	138.47	.16	−.13	
3.	Gender	1.68	1.36	46.15***	−.35	.42
4.	Library membership	1.41	1.57	10.07**	.21	−.20
	Home					
5.	Socio-ecomonic status	3.00	3.27	6.12*	.22	−.14
6.	TV reception	1.58	1.47	4.51*	−.14	
7.	TV in home	1.02	1.02	.04	−.04	
8.	Radio in home	1.02	1.04	1.34	.00	
9.	Family size	4.92	5.45	5.16*	.24	−.14
10.	Ordinal position	3.03	3.30	1.62	−.04	
	School					
11.	Location	1.67	1.54	3.54	−.45	.37
12.	School type 1: Girls	.57	.30	32.65***	−.46	.24
13.	School type 2: Mixed	.19	.16	.68	−.17	.20
	Personal (leisure)				Vars: 14-21	
14.	Television viewing†	273.74	258.98	.82	.09	
15.	Organised play	95.50	129.97	10.57**	.50	−.23
16.	Unorganised play	134.98	177.93	13.41***	.51	−.20
17.	School homework	66.66	54.18	4.78*	−.31	
18.	Radio listening	4.59	4.77	.01	−.18	.11
19.	Inactive/Lying about	157.92	191.74	10.51**	.45	−.25
20.	Helping at home	160.53	118.72	10.87***	−.16	
21.	Outings/Hobbies	426.55	436.68	0.24	.32	−.14
					Canonical correlation	
	Centroids (Vars: 1-13)	−.29	.56		.405	
	Centroids (Vars: 14-21)	−.19	.37		.268	
	Centroids (Vars: 1-21)	.31	−.59		.433	

† Mean values for variables 14-21 are in minutes. Transformed values were used for discriminant analysis.
†† Coefficients were not calculated for variables with *F-to-enter* ratios less than 1.0.

* $p < .05$ ** $p < .01$ *** $p < .001$